

# Hutchinson Wastewater Treatment Facility, Hutchinson



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## Organization

Designed to treat 3.67 MGD of wastewater through two independent treatment trains consisting of membrane bioreactor (MBR) and oxidation ditch systems.

## Intern Project

Assess opportunities for effluent nutrient reduction through computer modeling, and preliminary testing at the plant.

## Incentives to Change

The plant currently removes phosphorus through entirely chemical mechanisms, and performs negligible amounts of denitrification.

## Solutions

### MBR Operational/Configuration Changes

Reduce DO in aeration basins from 7 mg/L to 2 mg/L, create new anoxic zones by partitioning 100,000 gallons from each aeration basin, create anaerobic conditions in current anoxic zones, pipe recirculation to new anoxic zones, and add recirculation from anoxic to anaerobic zones.

These changes will create true anoxic and anaerobic conditions which will facilitate denitrification and biological phosphorus removal.

### Oxidation Ditch Aeration Cycling

Cycle aeration in the oxidation ditch using 1-hour-off/2-hour-on cycles to create anoxic and anaerobic conditions between aerobic periods in order to facilitate denitrification and biological phosphorus removal.

